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Release 2.1D John F. Collins, Bioinformatics Research Unit.  
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MSPRch\_n n.a. - n.a. database search, using Smith-Waterman algorithm

on: Thu Aug 21 10:01:25 1997; Maspar time 180.55 Seconds  
832.142 Million cell updates/sec

Tabular output not generated.

Title: >US-08-469-637A-1  
Description: (1-1527) from US08469637A.seq  
Perfect Score: 1527  
N.A. Sequence: 1 CGCCGACGCCGCCGCTCCAA.....TTCACTGGAAGAAAAA 1527  
Comp: GCGGCGCGCGCGCGAGGTT.....AAGTTGACCTTTT

Scoring table: TABLE default  
Gap 6

Mismatch STD : Dbase 0; Query 0

Searched: 134151 segs, 49196315 bases x 2

Post-processing: Minimum Match 0%

Listing first 45 summaries

Database:

n-geneseq27  
1:part1 2:part2 3:part3 4:part4 5:part5 6:part6 7:part7  
8:part8 9:part10 11:part12 13:part13  
14:part14 15:part15 16:part16 17:part17 18:part18  
19:part19 20:part20 21:part21 22:part22 23:part23  
24:part24 25:part25 26:part26 27:part27

Statistics: Mean 9.385; Variance 5.205; scale 1.803

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description	Pred. No.
1	1204	78.8	1206	27	T33165	Osteoclastogenesis in
2	1200	78.6	1206	27	T33165	Mutated OCIF, OCIF-DC
3	1200	78.6	1206	27	T33164	Mutated OCIF, OCIF-DC
4	1200	78.6	1206	27	T33162	Mutated OCIF, OCIF-DC
5	1200	78.6	1206	27	T33161	Mutated OCIF, OCIF-DC
6	1198	78.5	1206	27	T33163	Mutated OCIF, OCIF-DC
7	1196	78.3	1206	27	T33172	Mutated OCIF, OCIF-DC
8	1173	76.8	1182	27	T33178	Mutated OCIF, OCIF-DC
9	1052	68.9	1056	27	T33173	Mutated OCIF, OCIF-DC
10	1017	66.6	1083	27	T33166	Mutated OCIF, OCIF-DC
11	951	62.3	966	27	T33179	Mutated OCIF, OCIF-DC
12	890	58.3	1080	27	T33167	Mutated OCIF, OCIF-DC
13	816	53.4	984	27	T33171	Mutated OCIF, OCIF-DC
14	814	53.3	819	27	T33174	Mutated OCIF, OCIF-DC
15	765	50.1	1080	27	T33168	Mutated OCIF, OCIF-DC
16	663	43.4	10190	27	T33163	Fragment of human OCI

17	649	42.5	1080	27	T33169	Mutated OCIF, OCIF-DC	0.00e+00
18	598	39.2	1081	27	T33170	Mutated OCIF, OCIF-DC	0.00e+00
19	589	38.6	594	27	T33175	Mutated OCIF, OCIF-DC	0.00e+00
20	558	36.5	564	27	T33180	Mutated OCIF, OCIF-DC	0.00e+00
21	428	28.0	432	27	T33176	Mutated OCIF, OCIF-DC	1.12e-297
22	402	26.3	438	27	T33179	Osteoclastogenesis in	9.46e-278
23	400	26.2	465	27	T33168	Osteoclastogenesis in	3.22e-276
24	318	20.8	321	27	T33177	Mutated OCIF, OCIF-DC	1.35e-213
25	244	16.0	255	27	T33181	Mutated OCIF, OCIF-DC	1.77e-157
26	99	6.5	1047	2	Q10572	Human Natriuretic Pep	3.74e-50
27	80	5.2	1047	2	Q10572	Human Natriuretic Pep	9.70e-37
28	75	4.9	1317	27	T33182	Fragment of human OCI	2.88e-33
29	45	2.9	91	9	Q51746	Oligonucleotide probe	2.87e-13
30	42	2.8	204	1	N81164	Base substituted E.co	2.17e-11
31	39	2.6	114	12	Q70465	Generic DNA sequence	1.52e-09
32	36	2.4	114	12	Q70465	Generic DNA sequence	9.72e-08
33	36	2.4	114	12	Q70469	Generic DNA sequence	9.72e-08
34	36	2.4	114	12	Q70469	Generic DNA sequence	9.72e-08
35	35	2.3	204	1	N81164	Base substituted E.co	2.46e-08
36	35	2.3	114	12	Q70467	Generic DNA sequence	3.80e-07
37	33	2.2	114	12	Q70468	Generic DNA sequence	5.59e-06
38	33	2.2	114	12	Q70466	Generic DNA sequence	5.59e-06
39	34	2.2	114	12	Q70467	Generic DNA sequence	1.47e-06
40	33	2.2	114	12	Q70468	Generic DNA sequence	5.59e-06
41	32	2.1	114	12	Q70473	Generic DNA sequence	2.10e-05
42	32	2.1	114	12	Q70465	Generic DNA sequence	2.10e-05
43	32	2.1	114	12	Q70469	Generic DNA sequence	2.10e-05
44	31	2.0	114	12	Q70472	Generic DNA sequence	7.78e-05
45	30	2.0	114	12	Q70466	Generic DNA sequence	2.84e-04

## ALIGNMENTS

RESULT 1	T36685 standard; DNA; 1206 BP.
ID	T36685;
AC	22-APR-1997 (first entry)
DE	Osteoclastogenesis inhibitory factor coding sequence.
KW	Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;
OS	Homo sapiens.
FX	Key
FT	sig_peptide 1..63 Location/Qualifiers
FT	/tag_a
FT	mat_peptide 64..1203
FT	/tag_b
FT	/label-Claim 6
PN	W09626217-A1.
PN	29-AUG-1996
PF	20-FEB-1996; J00374.
PR	20-FEB-1995; JP-054977.
PR	21-JUL-1995; JP-207508.
PA	(SNOW) SNOW BRAND MILK PROD CO LTD.
PI	Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;
PI	Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;
DR	WPI; 96-402320/40.
DR	P-PSDB; R99924-25.
PT	DNA encoding osteoclastogenesis inhibitory factor protein - useful
PT	for bone resorption control, esp. treatment of osteoporosis
PS	Claim 8: Page 66-67; 183pp; Japanese.
CC	This sequence encodes the full length osteoclastogenesis inhibitory
CC	factor (OCIF) of the invention. The OCIF has a molecular weight by
CC	SDS-PAGE of 60 kD under reducing conditions and 120 kD under non-
CC	reducing conditions. The protein is adsorbed onto cation-exchangers
CC	or heparin and its activity is lowered after 10 mins at 70 deg.C or
CC	30 mins at 56 deg.C, and is lost after 10 mins at 90 deg.C. OCIF is
CC	useful in the control of bone resorption and therefore in the
CC	treatment and prevention of disorders of bone resorption, e.g.
CC	osteoporosis.
SQ	Sequence 1206 BP; 388 A; 284 C; 269 G; 265 T;
Query Match	78.8%; Score 1204; DB 27; Length 1206;
Best Local Similarity	99.9%; Pred. No. 0.00e+00;



Db 241 ctatactcagcccgctgtgcaaggagctgcagtaagtaagcaagagtcacgcacc 300  
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 Qy 286 CTATCTGAGCCCGCTGTGCAAGAGGCTGCACTAGTAAACAGAGAGCAATGCGACC 345  
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 Db 301 cacaacccgctgtgcgaatgcagaaggcgctaccccttgatagatagagttcgttgaa 360  
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 Qy 346 CACAACCCCGCTGTGCAATGCAAGAGAGGCGCTACTTGATAGATTGCTTGAA 405  
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 Db 361 cataagagctgcctccctcctgatttgatgtgtgcagctgcgaagcccccagagcaataa 420  
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 Qy 406 CATAGAGACTGCGCTTCGTGATTTGAGTGTGCAAGCTGGAACCCCAAGGAATATCA 465  
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 Db 421 gtttcgaaagatgctgcagatgggtctctcaaatgagagctcctaaagcaccctgt 480  
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 Qy 466 GTTTCAAAAGATGTCCAGATGGGTCTTCTTAATGAGAGCTCATCTTAAGCACCCTGT 525  
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 Db 481 agaaaaacacacaatgtcagtgctcttggtctcctgctactcagaagaagaatgcaca 540  
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 Qy 526 AGAAAACACACAAATTGCAAGTGTCTTGCTCTCTGCTACTCAGAAAGGAATGCAACA 585  
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 Db 541 cagcgaacatatgttcgggaagacgtgaatcaactcaaaaatgtggaatagattacc 600  
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 Db 601 ctgtgtgaggaagcattctctcaggttctgcttctcctacaagaattacgcctactggt 660  
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 Qy 646 CTGTGTGAGGAGGCAATTTCTTCAGTTTGTCTTCTTCAAAATTTACGGCTTACCTG 705  
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 Db 661 agtgcctgtgtgacaattgtcctgtgcaccaagaagtaaacgcagagagtgatagagata 720  
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 Qy 706 AGTGTCTGTGTAGACAAATTTGCCCTGGCAACAAAGTAACGGCAGAGTGTATAGAGGATA 765  
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 Db 721 aaagggcaacacagctcacagaagaagacttccagctgctgtaagttatggaacataa 780  
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 Qy 766 AAACGGCAACAGCTGCACAAAGACAGATTTCCAGCTGCTAAAGTTATGGAACATCAA 825  
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 Db 781 aacaagaagccaaatgatatgtaagaagatcatcaagaatatgagctcgtgtaaaagc 840  
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 Qy 826 AACAAAGACCAAGATATATGATCAAGAAAGATCAAGATATTGACCTCTGTAAACAC 885  
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 Db 841 gtgcagcgacacatgtgacatgttaactcactccttcgagcagcttcgttagcttga 900  
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 Qy 886 GTGCAGCGGACATATGGACATCTTAACCTCACCTTCGACACCTTGATGTGATA 945  
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 Db 901 agctaccggggaagaagaatgtggagcagaagacattgaaaaacaataaagcattgca 960  
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 Qy 946 AGCTTACCGGGAAAGAAAGTGGGAGCAGAAAGACATTGAAAAACATTAAGCATGCAAA 1005  
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 Db 961 cccaatgagccaaatcctcgaagctgtcaggtgtgtgagagataaaatggcgagcaagc 1020  
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 Qy 1006 CCAATGACCAATCTGTAAGTGTGCTAGTTGTGGCGAATTAATAATGGCAACCAAGAC 1065  
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 Db 1021 accctgaaggcgctaatgacgcactaaagacactcaaaagcttacacattcccaaac 1080  
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 Db 1081 gtcaactcagagcttaagaagaacatcaaggtcctcctcacagcttcaacaatgtcaaat 1140  
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 Qy 1126 GTCACTCAGAGCTTAAGAAGACCACTCAGGTCTTCAAGCTTCAATGTAACAAATG 1185  
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 Db 1141 tatcgaagttatcttttgaagaatgataagtaacaggttcaactgtaaaataagcagc 1200  
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 Qy 1186 TATCGAAGATTATTTTGAATGATAGGTAAACAGGTCCAAATCAGTAATAAATAGCTGC 1245  
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 Db 1201 ttataa 1206  
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 Qy 1246 TTATAA 1251  
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 RESULT 3  
 ID T33164 standard; DNA; 1206 BP.  
 AC T33164;

DT 22-APR-1997 (first entry)  
 DE Mutated OCIF, OCIF-C225, coding sequence.  
 KW Osteoclastogenesis Inhibitory factor: OCIF; heparin; bone resorption;  
 KW osteoporosis; ss.  
 OS Synthetic.  
 FH Key Location/Qualifiers  
 FT sig\_peptide 1..63  
 FT /\*tag- a  
 FT mat\_peptide 64..1203  
 FT /\*tag- b  
 FT /product- OCIF-C225  
 PN W09626217-A1.  
 PD 29-AUG-1996.  
 PE 20-FEB-1996: J00374.  
 PR 20-FEB-1995: JP-054977.  
 PR 21-JUL-1995: JP-207508.  
 PA (SNOW ) SNOW BRAND MILK PROD CO LTD.  
 PI Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;  
 PI Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;  
 DR WPI: 96-402320/40.  
 DR P-PSDB: R89934.  
 PT DNA encoding osteoclastogenesis inhibitory factor protein - useful  
 PT for bone resorption control, esp. treatment of osteoporosis  
 PS Claim 36: Page 135-136; 183pp; Japanese.  
 CC This sequence encodes a mutated version of the full length  
 CC osteoclastogenesis inhibitory factor (OCIF) of the invention. This  
 CC sequence encodes OCIF-C225 in which the 22nd Cys residue in the mature  
 CC OCIF protein is substituted by Ser. The OCIF of the invention has a  
 CC molecular weight by SDS-PAGE of 60 kD under reducing conditions and  
 CC 120 kD under non-reducing conditions. The protein is adsorbed onto  
 CC cation-exchangers or heparin and its activity is lowered after 10 mins  
 CC at 70 deg C or 30 mins at 56 deg C, and is lost after 10 mins at 90  
 CC deg C. OCIF is useful in the control of bone resorption and therefore  
 CC in the treatment and prevention of disorders of bone resorption, e.g.  
 CC osteoporosis.  
 SQ Sequence 1206 BP; 389 A; 285 C; 268 G; 264 T;

Query Match 78.6%; Score 1200; DB 27; Length 1206;  
 Best Local Similarity 99.8%; Pred.No 0.00e+00;  
 Matches 1203; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

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 Qy 46 ATGAACAAGTTGT 105  
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 Qy 106 CAGGAAAGTTTCTCCCAAAAGTACCTCATATGACGAAGAAACCTCATCAGCTGTG 165  
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 Db 121 tgtgcaaatgttcctcctcctgtgtaacttaaaacaacctgtacagcaaatggaagac 180  
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 Qy 166 TGTGCAAAATGTCTCCCTCGGTGATGCTTAATAAACCTGTAAAGCAATGGAAAGCC 225  
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 Db 181 gtgtgcgcccccttgccctgaccactactacaagacagctgcacacagctgacagaggt 240  
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 Qy 226 GTGTGCGCCCTTGCTGCGTACCTACTACACAGACAGCTGTGACACAGTGTGATG 285  
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 Db 241 ctatactcagcccgctgtgtgcaaggagctgcagtaagctcaagcagagtgtaatgcacc 300  
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 Qy 286 CTATCTCAGACCCCGGTGTGCAAGAGCTGCAAGTACGTCAAGAGAGGATGCAATGCAAC 345  
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 Db 301 cacaacccgctgtgcgaatgcagaaggcgctaccccttgatagatagagttcgttgaa 360  
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 Qy 346 CACAACCCCGGTGTGGAATGCAAGAAAGGGCTACCTTGAGATAGATTGCTTGAA 405  
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 Db 361 cataagagctgcctccctcctggaatttgagtggtgcagagctggaacccagcgaataa 420  
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 Db 421 gtttcgaaagatgtccagatgggttctctcaaatgagagctcatcctaaagcaccctgt 480  
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 Qy 466 GTTTCAAAAGATGTCCAGATGGGTCTTCTCAATGATGAGAGCTATTAAGCAACCCCTGT 525  
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Db	541	cacgacaacatattgtccgggaacaacagtgatcaactcaaaatgtgaaatagtacc 600
Oy	586	CACGACAACATATGTCTCCGGAAACAGTGAATCAACTCAAAAATGTGAAATATTAC 645
Db	601	ctgtgtggaaggagcattcttcaagttgtctgttcttcaaaagttacgacctgtgctt 660
Oy	646	CTGTGTGAGGAGGATTCCTTCAGGTTTGCTGTCTCAAAAGTTTACGCTTAACGCTT 705
Db	661	agttcttgtgaagcaatttggcctgtgaccaaagttaacgacagagatgtlaagggata 720
Oy	706	AGTGTCTTGTGAGCAATTTGGCTCGGACCCAAAGTAACGACAGAGGTGTAAAGAGATA 765
Db	721	aaacgycacacaactctcaagaacagacactttccagctctgtaagtatgaaacatcaa 780
Oy	766	AAAGGGCAACACACTCACAAGAACAGACTTTCAGCTGCTGAAGTAAGAAACATCAA 825
Db	781	aacaaagaccaaagatagatcaagaagaatcatccaaagatatgtacctgtgaaacagc 840
Oy	826	AACAAAGACCAAGATATATAGTCAAGAAAGATCATCCAAGATATTGACCTCTGTAAACAGC 885
Db	841	gtggaagggagcaacttgtagcaatgttaacctactcttgagacagcttcgtatgttgtaa 900
Oy	886	GTGGAAGGGAGCAATTTGAGCAATGTGCACTTACCTTGAGACAGCTTGATGTGAA 945
Db	901	agcttaccgggaagaagaagtgaggagcagaagaacattgaaaaaaacaataaaggcaagcaa 960
Oy	946	AGCTTACCGGGAAGAAGAAAGTGGGAGCGAAGATTTGAAAAAACATAAGSACATGCAA 1005
Db	961	cccaagtaccagatcctgaaactgtctgaagttgtgtggcgataaanaatgycgaccagac 1020
Oy	1006	CCCAGTACACAGATCCCTGAAAGTGTCTCAGTTGTGGCGAATTAATAAATGGCGACCAAGAC 1065
Db	1021	accttgaaagggcctaataagcagcgcacctaagaacatcaaaagatgacacatttcccaaat 1080
Oy	1066	ACCTTGAAGGGCTTAATGACAGCGACCTTAACACATCAAAAGCGATACACTTCCCAAACT 1125
Db	1081	gtcaactcagagttcaaaagaagacatcaatgaagttccttcacagcttcacaatgtaacaatg 1140
Oy	1126	GTCACCTCAGAGCTCTAAAGAAAGACCATTCAGTCTCTTCAACAGCTTCACAAATG 1185
Db	1141	tatcagaagttatttttagaataatgatagtgaacagggtccaatcagtaaaataaagctgc 1200
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Oy	1246	TTATTA 1251
AC	T33162	
DT	22-APR-1997	(first entry)
DE	Mutated OCIF, OCIF-C20S, coding sequence.	
KW	Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;	
OS	osteoporosis; ss.	
FS	Synthetic.	
FT	sig_peptide	Location/Qualifiers
FT	/*tag- a	1..63
FT	mat_peptide	64..1203
FT	/*tag- b	
FT	/product= OCIF-C20S	
PN	MO9626217-A1.	
PD	29-AUG-1996.	
PF	20-FEB-1996: J00374.	
PR	20-FEB-1995: JP-054977.	
PR	21-JUL-1995: JP-207508.	
RA	(SNOW ) SNOW BRAND MILK PROD CO LTD.	

Pt	Goto M, Higashio K, Kobayashi E, Mochizuki S, Morinaga T;
Pl	Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;
Dk	WPI; 96-402330/40.
Dr	P-PDB; R89932.
Pt	DNA encoding osteoclastogenesis inhibitory factor protein - useful
Pt	for bone resorption control, esp. treatment of osteoporosis
Ps	Claim 30; Page 133-134; 183pp; Japanese.
Cc	This sequence encodes a mutated version of the full length
Cc	osteoclastogenesis inhibitory factor (OCIF) of the invention. This
Cc	sequence encodes OCIF-c205 in which the 20th Cys residue in the mature
Cc	OCIF protein is substituted by Ser. The OCIF of the invention has a
Cc	molecular weight by SDS-PAGE of 60 kD under reducing conditions and
Cc	120 kD under non-reducing conditions. The protein is adsorbed onto
Cc	cation-exchangers or heparin and its activity is lowered after 10 mins
Cc	at 70 deg.C or 30 mins at 56 deg.C, and is lost after 10 mins at 90
Cc	deg.C. OCIF is useful in the control of bone resorption and therefore
Cc	in the treatment and prevention of disorders of bone resorption, e.g.
Cc	osteoporosis.
Sq	Sequence 1206 BP; 389 A; 283 C; 270 G; 264 T;
Query Match	78.6%; Score 1200; DB 27; Length 1206;
Best Local Similarity	99.8%; Pred. No. 0.00e+00;
Matches 1203; Conservative	0; Mismatches 3; Indels 0; Gaps 0;
Dk	1 atgacaactctgcgtctcgctcgctcgctgtttcttgacatcccaattgaaggcacg 60
Qy	46 ATGAACAAGTGGCTGCTCGCGCCTGTGTTTGACATCTCCATTAAAGTGACCACC 105
Dk	61 caggaaacgttctctccaagaatcattcatatgacgaagaaccttcataagctgtg 120
Qy	106 CAGGAACGTTCTCTCCAAGTACCTTCATTATGACGAAGAACCCTTCATCACTGTG 165
Dk	121 tgtgacaatgtccctctctgttacctaactaaaacaacagttaacgaagttygaagc 180
Qy	166 TGTAACAATGTCTCTCTGTACTACTAATAAACACAGTAGACGAAGTGGAAAGCC 225
Dk	181 gttgtgcgccctctctcctgtaccactactaacacagacagcttggcacccagttgacagtg 240
Qy	226 GTGTGCGCCCTTCCCTCCGTGACCATCTACTAACACAGCAGCTGGCACACAGTGAAGTGT 285
Dk	241 ctatactgcgaacccccgtgtgaagaagctcagaatgcgaagcagggttcatactgacc 300
Qy	286 CTAACTGCAACCCCCGTGTGCMAAGACTGCAATGCTCAAGCAGGAGTCAATGCAACC 345
Dk	301 cacaaacgcgtgttgcgaatgcgaagaagggcgtctaccttagatagaagttcttgttaa 360
Qy	346 CACAACGGCGGTGCGAATGCAAGCAAGAGGGCGTCACTTAGATAGAGTCTCTCTGAAA 405
Dk	361 catagagagctgcctctcctgtgaatttgasgtgtgtgaagctygnaaccccagaacgaaatata 420
Qy	406 CATAGAGAGCTCCCTCCTCGATTGTGGAGTGTGCACCTGGAACCCCAAGCGCAAAATACA 465
Dk	421 gtttgcaaaagatgtccaagatgggtttcttccaatvtgaagcgtcatcttaagaacctgt 480
Qy	466 GTTTGCAAAAGATGTCCAGATGGGTTTTTCTCAAAATGAGAGCTATTAAGCAACCTGT 525
Dk	481 agaaaaacacaaatttcagatgtattttgtgtctccctgttaactcagaagaagaattgcaca 540
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Dk	661 agttctcttgtagagaacaatttgcctcgggacaagaatgaacgcaagagttfagaagagata 720
Qy	706 AGTGTCTTGTGTAGCAATTTGCTCTGGGACCAAAAGTAAACCAAGAGATGTAGAGAGATA 765
Dk	721 aaagcgacaacacacttcaacaagaacacacttccagctgtctgaagttatgtgaatacata 780

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QY 886 GTCCACGCGGACATTTGACATGCTAACCTTCCAGAGAGCTTGTACTTGTATGGAA 945
Db 901 agcttaccggaaagaagtgggagcagaagaattgaaaaacaataaggcatgcaa 960
QY 946 AGCTTACCGGGAAGAAAGGCGAGCAGAGACATTCAAAAACATTAAGCATGCCAA 1005
Db 961 cccagtgaccagatctctgaaagctgtctcagttgtggtgcaataaataaggccaagac 1020
QY 1006 CCCAGTGCACAGATCTGAGAGCTGCTCAGTTGTGGCGAATTAATAATGCGACCAAGAC 1065
QY 1021 accttgaagggcctaatgacgcgcactaaagcactcaagaagcgtacacattcccaaac 1080
QY 1066 ACCTTGAAAGGCGCTTAAGCAGCAGCACTAAACACTCAAAAGAGTACCTTCCCAAAACT 1125
Db 1081 gtacactagaagcttaagaagaacacatcaggttccctcacagcttcacaatgtacaattg 1140
QY 1126 GTACTCTAGAGCTTAAGAAAGACCATAGCTTCTTACAGCTTCCAAATGTCAAAATG 1185
Db 1141 tatcagaagttattttatagaatgatagtaaacagaagttcccaatcagtaaaataagctgc 1200
QY 1186 TATCAGAAAGTATTTTAAAGAAATGATAGTAAACAGGTCCAAATCAGTAAATAAGCTGC 1245
Db 1201 ttataa 1206
QY 1246 TTATAA 1251

RESULT 5
ID T33161 standard; DNA; 1206 BP.
AC T33161;
DT 22-APR-1997 (first entry)
DE Mutated OCIF, OCIF-C19S, coding sequence.
KM Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;
KW osteoporosis; ss.
OS Synthetic.
FH Key Location/Qualifiers
FT sig_peptide 1..63
FT mat_peptide 64..1203
FT /tag= a
FT /product= OCIF-C19S
FT /tag= b
FT /product= OCIF-C19S
PN WO9626217-A1.
PD 29-AUG-1996.
PF 20-FEB-1996; J00374.
PR 20-FEB-1995; JP-054977.
PR 21-JUL-1995; JP-207508.
PA (SNOW) SNOW BRAND MILK PROD CO LTD.
PI Goto M, Higashio K, Kobayashi F, Morinaga T;
PI Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;
PI WPI: 96-402320/40.
DR P-Psdb; R99931.
PT DNA encoding osteoclastogenesis inhibitory factor protein - useful
PT for bone resorption control, esp. treatment of osteoporosis
PS claim 27; Page 132; 183pp; Japanese.
CC This sequence encodes a mutated version of the full length
CC osteoclastogenesis inhibitory factor (OCIF) of the invention. This
CC sequence encodes OCIF-C19S in which the 19th Cys residue in the mature
CC OCIF protein is substituted by Ser. The OCIF of the invention has a
CC molecular weight by SDS-PAGE of 60 kD under reducing conditions and
CC 120 kD under non-reducing conditions. The protein is adsorbed onto
CC cation-exchangers or heparin and its activity is lowered after 10 mins
CC at 70 deg.C or 30 mins at 56 deg.C, and is lost after 10 mins at 90
CC deg.C. OCIF is useful in the control of bone resorption and therefore
CC in the treatment and prevention of disorders of bone resorption, e.g.

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CC osteoporosis.
SQ Sequence 1206 BP; 389 A; 283 C; 270 G; 264 T;
Query Match 78.6%; Score 1200; DB 27; Length 1206;
Best Local Similarity 99.8%; Pred. No. 0.00e+00;
Matches 1203; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
Db 1 atgaataacttgcctgctgcgcgcgcctgcgtgttctcggaaattccattgaagggaccac 60
QY 46 ATGAACAACTTCTGCTGCTGCGCGCTCGTGTCTGGAATCTCCATTGAAGTGAGACACC 105
Db 61 caggaaacgttccctccaaagtaacctcaattatgaagaagaacctctacagctgttgc 120
QY 106 CAGGAACCTTTCCTCCAAAGTACCTTCAATTATGACGAAGAAACCTCTATCAGCTGTG 165
Db 121 tgtgacaaatgtctctctctgtgtaaccttaaaacaacactgtacagcaaatgtgaagacc 180
QY 166 TGTGACAAATGTCTCTCTGTACTCTTAACAAACACTGTATACCAAAATGTGAAGACC 225
Db 181 gtgtgcgcccttgcctctgaacctactacagaagcttgcacacagtgagagtg 240
QY 226 GTGTGCGCCCTTGCCCTGACCACTACTACAGAGAGCTGGACACCGTAGAGAGTGT 285
Db 241 ctatactgagcccggtgtgcaagagctgcagtaagctcaagcagagtgcaatgcagc 300
QY 286 CTATACTGACGCCCGGTGTGCAAGAGCTGCAGTACTAAGCAGAGAGTGCATGCGACC 345
Db 301 cacaacgcggtgtgcgaatgcaaggaaggcgctacacttgaagataagttcgttgaa 360
QY 346 CACAACCGGTGTGCGAATGCAAGGAAGGCGCTACTCTGAGATGAGATTGCTTGTA 405
Db 361 cataggaagctgcctcctctgtgattgagtggtgcgaagctgcgaaccccaagcgaataca 420
QY 406 CATAGGAGCTGCCCTCTCTGATTTGGAGTGTGCAAGCTGGAACCCCAAGCAATATCA 465
Db 421 gtttgaagaagatgtccagatgggttctctcaaatgagagctcatcaaacacccgt 480
QY 466 GTTTGCAAAAGATGTCCAAGTGGGTTCTTCTCAATGAGACGTCACTTAAGCACCTGT 525
Db 481 agaaaacacacaatgtcagttcttctgtctctctactcaagaagaatgcgaaca 540
QY 526 AGAAACACACAATGTGAGTGTGTTGCTTGTCTCTCTAATCAGAAAGAAATGCAACA 585
Db 541 cacgacaacatattgtccggaaacagtgaaatcaactcaaaaaagtgaatagatgtacc 600
QY 586 CACGACAAATATGTTCGGAAACACTGATCAACCAAAAATGTGAAATAGATTATAC 645
Db 601 ctgtgtgaggaagcatcttccaggttctgtgttccacaagaagttcggctaactgct 660
QY 646 CTGTGTGAGGAGGCATTTCTCAGGTTTGTCTTCAAAAGTTTACGCTTAACCTGGCTT 705
Db 661 agtgcctgttagacaatttgcctgcgcacaaagtaaacgcagagagttagaagagata 720
QY 706 AGTGTCTTGTGTAACAATTGCTGTGCACCAAGTAAGCAGAGAGTATAGAGAGATA 765
Db 721 aaacggcaacacagctcacagaagcagacttccagctgcgtgaagttatggaacaatca 780
QY 766 AACGCGCAACACAGCTCAACAAGACAGACTTCCACTCTGAACTTATGGAACAATCA 825
Db 781 aacaagaaccagataatgacaagaatcatccaagatatgaagattgacctgtgaaaaaacg 840
QY 826 AACAAAGACCAAGATATGTCAGAAAGATCATCCAGATATGACCTCTGTGAAAAACGC 885
Db 841 gtgcacgcgcacattggaactgttaacctactctgagaagcttgtagcttgagaa 900
QY 886 GTCCACGCGGACATTTGACATGCTAACCTTCCAGAGAGCTTGTACTTGTATGGAA 945
Db 901 agcttaccggaaagaagtgggagcagaagaattgaaaaacaataaggcatgcaa 960
QY 946 AGCTTACCGGGAAGAAAGGCGAGCAGAGACATTCAAAAACATTAAGCATGCCAA 1005
Db 961 cccagtgaccagatctctgaaagctgtctcagttgtggtgcaataaataaggccaagac 1020

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QY 1006 CCCAGTACACAGATCCTGAGCTGCTCAGTTTGTGGCGAATATAAAATGGCGACCAAGNC 1065  
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 QY 1066 ACCTTGAAGGGGCTTAATGACGACCTAAAGCAGCTCAAGACCTTCTCCAAACT 1125  
 Db 1081 gtcaactcagagctcctaagaagaccalcaggttccttcacagcttcacaaatgacaaatg 1140  
 QY 1126 GTCACTCAGAGTCTAAAGAGACCATCAGGTCTCTCAAGCTTCACATGTACAAATG 1185  
 Db 1141 tatcgaagttatcttttgagaatgatagtaacagagttccaatcagtaaaatagctgc 1200  
 QY 1186 TATCAGAAAGTTATTTTGTAGAAATGATAGTAACTCAGTCCATCAGTAAATAAGCTGC 1245  
 Db 1201 ttataa 1206  
 QY 1246 TTATAA 1251  
 RESULT 6  
 T33163 standard; DNA: 1206 BP.  
 T33163: 22-APR-1997 (first entry)  
 DE Mutated OCIF, OCIF-C21S, coding sequence.  
 KW Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;  
 OS osteoporosis; ss.  
 OS Synthetic.  
 FH Key Location/Qualifiers  
 FT sig\_peptide 1..63  
 FT /\*lag- a  
 FT mat\_peptide 64..1203  
 FT /\*lag- b  
 FT /product= OCIF-C21S  
 FT W060626217-A1.  
 PD 29-AUG-1996.  
 PF 20-FEB-1996; J00374.  
 PR 20-FEB-1995; JP-054977.  
 PR 21-JUL-1995; JP-207508.  
 PA (SNOW) SNOW BRAND MILK PROD CO LTD.  
 PI Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;  
 PI Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;  
 DR WPI: 96-402320/40.  
 DR P-PSDB: R99933.  
 PT DNA encoding osteoclastogenesis inhibitory factor protein - useful  
 PT for bone resorption control, esp. treatment of osteoporosis  
 PT Claim 33; Page 134-135; 183pp; Japanese.  
 CC This sequence encodes a mutated version of the full length  
 CC osteoclastogenesis inhibitory factor (OCIF) of the invention. This  
 CC sequence encodes OCIF-C21S in which the 21st Cys residue in the mature  
 CC OCIF protein is substituted by Ser. The OCIF of the invention has a  
 CC molecular weight by SDS-PAGE of 60 kD under reducing conditions and  
 CC 120 kD under non-reducing conditions. The protein is adsorbed onto  
 CC cation-exchangers or heparin and its activity is lowered after 10 mins  
 CC at 70 deg.C or 30 mins at 56 deg.C, and is lost after 10 mins at 90  
 CC deg.C. OCIF is useful in the control of bone resorption and therefore  
 CC in the treatment and prevention of disorders of bone resorption, e.g.  
 CC osteoporosis.  
 SO Sequence 1206 BP; 389 A; 286 C; 267 G; 264 T;  
 Query Match 78.5%; Score 1198; DB 27; Length 1206;  
 Best Local Similarity 99.7%; Pred. No. 0.00e+00;  
 Matches 1202; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 166 TGTGCAAAATGTCTCTCTGATCTACCTAAACACAGACTGTACAGCAAGATGGAGAAC 225  
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 QY 226 GTGTGGGCGCCCTTGCCCTGACACTACTACACAGCAGCTGGCACACGAGGAGAGT 285  
 Db 241 ctatactcagccccgtgtgcaagagctgcagtagcttcaagcagagagtgtaactgcacc 300  
 QY 286 CTATACTGCACCCCGGTGTGCAAGAGAGTGCATACGTCAAGCAGAGATGCAATCGCACC 345  
 Db 301 cacaaacgagtgctgcgaatgcaaggaaggcgctacccttgatagagttctgtgaaa 360  
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 QY 466 GTTGCAGAAATATGTCAGATGGGTCTCTCAATAGAGAGCTATCTAAAGCACCTGT 525  
 Db 481 agaaacacacaaatlgcagtgcttggctcctgtcctgaactcagaaggaatgcaaca 540  
 QY 526 AGAAACACACAAATGCAAGTGCAGTGTCTTGTCTCTGTAATCTGAGAAAGCAATGCAACA 585  
 Db 541 cagcacaacatatgttcgcgaaacagtgaaatcaactcaaaaatgtggaatagatgttacc 600  
 QY 586 CACGCAACATATGTTCGGAAACAGTAACTCAAAAATGTGAAATGATGATTAC 645  
 Db 601 ctgtgtgagagagcatcttcaggtttgtcgttcctcaaaagtttaagcccttgcctt 660  
 QY 646 CTGTGTAGAGAGGCAATCTTCAAGTTTGTCTCTCTCAAAAGTTTAAAGCCATAGGCTT 705  
 Db 661 agtgcctgtgtagcaaatgtgcctggaacaaagtaacgcagagagtgtagagagata 720  
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 QY 1246 TTATAA 1251









Best Local Similarity 99.9%; Pred. No. 0.00e+00;  
Matches 1053; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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D 121 tgtgacaatgtccctcctgtgtacccaaacaacacactgtacagcaagtggagacc 180
Q 166 TGTGACAATGTCTCTCGTGTGCTACTTAACAACACTGTACAGCAAGTGAAGACC 225
D 181 gtgtgcgcctcctcctgtgacactactaacagaacagctggcacacagtgagagt 240
Q 226 GTGTGCGCCCTTGCGCTGACACACTACTACAGACAGCTGGCACACAGTACAGTGT 285
D 241 ctatctcagcgcctcctgtgtgcaagagctgcagctacgtcaacagagatgtcagacc 300
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D 301 cacaaccgcgtgtgcaatgcaaggaagggcgctacactgtgagatagagtctgttga 360
Q 346 CACAACCCGCTGTGCGAATGCAAGGAAGGCCCTACTTGAATAGAGTCTGCTTGA 405
D 361 cataagagctgcctcctcctgtgattgtgagtgtgtcaagctgtgaaccccaagcga 420
Q 406 CATAGAGACTGCTCTGCTGATTTGGAGTGTGCAAGCTGGAACCCCAAGGCAATACA 465
D 421 gtttcaaaagtgtccagatgtgtctctcaaatgagactcatctaaagaccctgt 480
Q 466 GTTTCAAAAGTGTGCGAATGGTCTTCTCAATGAGACCTCTCAAAACACCCCTGT 525
D 481 agaaacaacaatatgtcagtgcttctgtctcctgtacacagaagaagaatgcaaca 540
Q 526 AGAAACACACAAATTTGCAAGTGTCTTGTGCTCTCTGCTACTCAGAAAGAAATGCA 585
D 541 cagcacaacatagtctcggaaacagtgaaatcaactcaaaaaatgtgaaatagtctac 600
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D 661 agtgcctgtgtgacaatttgcctgtgacacaagaatgaagagagagtgtaagaggata 720
Q 706 AGTGTCTTGTGACAAATTTGCTGTGACCAAAAGTAAAGCAGAGTGTAGAGAGGATA 765
D 721 aaacgcaacaacagctcacaagaacagacttccagctgtgtgaagtlatggaacaaca 780
Q 766 AAACGGCAACACAGCTCCACAAGACAGACTTCCAGCTCTCTAAGTATGGAACATCA 825
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Q 826 AACAAAGACCAAGATATGTCAAGAAAGATCAATCAAGATATGACCTCTGTAAAAACAC 885
D 841 gtgtgcgagcagatgtgacatgttaacctcaactcagcagcaacttcgtatgtatgaa 900
Q 886 GTGTGCGCGCATTTGACATCTTAACCTTCCACTTTCGACAGCTTGTGATGTGA 945
D 901 agcttaccggaagaagatgtgagacagaagacatgtgaaaaacaataaaggcagcaaa 960
Q 946 AGCTTACCGGGAAAGAAAGTGGAGACAGACATTGAAAAACAATAAGCATGCAAA 1005
D 961 cccagtgacagatccctgaagctgtcagttgtgtgcgaaataaaaaatgtgcgaacagac 1020
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QY 1066 ACCTTGAAGGGCCTATATGACGCACTAAAGCACT 1099

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RESULT 10
ID T33166 standard; DNA; 1083 BP.
AC T33166;
DE 22-APR-1997 (first entry)
DE Mutated OCIF, OCIF-DCR1, coding sequence.
KM Osteoclastogenesis Inhibitory factor; OCIF; heparin; bone resorption;
OS osteoporosis; ss.
FH Key Location/Qualifiers
FT sig_peptide 1..63
FT /tag- a
FT /tag- b 64..1080
FT /product= OCIF-DCR1
FT W09626217-A1.
PD 29-AUG-1996.
PF 20-FEB-1996; J00374.
PR 20-FEB-1995; JP-054977.
PR 21-JUL-1995; JP-207508.
PA (SNOW ) SNOW BRAND MILK PROD CO LTD.
PI Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;
PI Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;
PI WPT: 96-402320/40.
DR P-PEDB; R99936.
PT DNA encoding osteoclastogenesis inhibitory factor protein - useful
PT for bone resorption control, esp. treatment of osteoporosis
PS Claim 42: Page 137-138, 183pp; Japanese.
CC This sequence encodes a mutated version of the full length
CC osteoclastogenesis inhibitory factor (OCIF) of the invention. This
CC sequence encodes OCIF-DCR1 in which amino acids 2-42 of the mature
CC protein have been deleted. The OCIF of the invention has a molecular
CC weight by SDS-PAGE of 60 kD under reducing conditions and 120 kD under
CC non-reducing conditions. The protein is adsorbed onto cation-exchangers
CC or heparin and its activity is lowered after 10 mins at 70 deg.C or 30
CC mins at 56 deg.C, and is lost after 10 mins at 90 deg.C. OCIF is useful
CC in the control of bone resorption and therefore in the treatment and
CC prevention of disorders of bone resorption, e.g. osteoporosis.
SQ Sequence 1083 BP; 352 A; 250 C; 246 G; 235 T;
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Query Match 66.6%; Score 1017; DB 27; Length 1083;  
Best Local Similarity 100.0%; Pred. No. 0.00e+00;  
Matches 1017; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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D 67 ccttgcctgaccactactacacagacagctggcacacacagtgagagtggtctatagc 126
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D 127 agcccggtgtgcaagagctgcaagtaagctcaagcagagagtgcaatcgcaaccacacgc 186
Q 295 AGCCCGTGTGCAAGAGCTGCAAGTACGTAAGCAAGAGTGAATCGACCCACCAACCC 354
D 187 gtgtgcaatgcaaggaagggcgctacacttgagataagagttctgttgaacatagagac 246
Q 355 GTGTGCAATGCAAGGAAGGGCGCTACTTGTGATAGAGTTCTGCTTGAACATGAGAC 414
D 247 tgcctcctgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgtgt 306
Q 415 TGCCCTCTCGATTTGGAGTGTGCAAGCTTGGAACCCAGACGAAATACATTTTGCAA 474
D 307 agatgtccaagatgtgttcttccaatgagagctatcctaagcaccctgtgtgaagaac 366
Q 475 AGATGTCCAGATGGGTCTTCTCAATGAGAGCTATCTAAAGCACTCTGTGAAACAC 534
D 367 acaattgcagtgcttctgtctcctgttaactcagaagaagaaatgtcaacacagacaac 426
Q 535 ACAATTCAGAGTCTTGTGCTCTCTGCTAAGTCAAGAAAGGAAATGCAACACAGCAAC 594
D 427 atatgtccggaagaagagaaatcaactcaaaaatgttgaatatagattacccgtgtgtg 486
Q 595 ATATGTCCGGAAACAGTAATCAACTCAAAAATGTGAATGATGTATCCCTGTGTAG 654
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 QY 895 CACATTGACATGCTAAGCTCAGCTTGTGAGAGCTTGTGTGCTGATGGAAGCTTACCG 954  
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 QY 1075 GGCCTATATGACGACACTAAAGACACTCAAGACGTACACCTTTCCCAAACTGTACCTCAG 1134  
 Db 967 agctcaagaagacacatcaggttccctcacaagcttcaaatgtacaaattgtatcagaag 1026  
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 QY 1135 AGCTTAAGAAGACCAATCAGGTTCTTCAACAGCTTCAAAATGTCAATTTGATCAAGAAG 1194  
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 QY 1195 TTATTTTAAAGATGATGATACCAAGTCCAAATCAATTAATAATTAAGCTGCTTATAA 1251  
  
 RESULT 11  
 ID T33179 standard: DNA; 966 BP.  
 AC T33179;  
 DE 22-APR-1997 (first entry)  
 DT Mutated OCIF, OCIF-CSpH, coding sequence.  
 KW Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;  
 osteoporosis; ss.  
 Synthetic.  
 key Location/Qualifiers  
 FT sig\_peptide 1..63  
 FT /tag- a  
 FT mat\_peptide 64..963  
 FT /tag- b  
 FT /product- OCIF-CSpH  
 PN W09626217-Al.  
 PD 29-AUG-1996;  
 PF 20-FEB-1996; J00374.  
 PR 20-FEB-1995; JP-054977.  
 PR 21-JUL-1995; JP-207508.  
 PA (SNOW) SNOW BRAND MILK PROD CO LTD.  
 PI Goto M, Hiyashio K, Kobayashi F, Mochizuki S, Morinaga T;  
 PI Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;  
 DR WPI: 96-402320/40.  
 DR P-PDB: R99949.  
 PT DNA encoding osteoclastogenesis inhibitory factor protein - useful  
 PT for bone resorption control, esp. treatment of osteoporosis  
 PS Claim 81; Page 149; 183pp; Japanese.  
 CC This sequence encodes a mutated version of the full length  
 CC osteoclastogenesis inhibitory factor (OCIF) of the invention. This  
 CC sequence encodes OCIF-CSpH in which amino acids 298-380 of the mature  
 CC protein have been deleted and replaced by Ser-Ileu-Asp. These amino

CC acid changes have been caused by the introduction of a restriction  
 CC site. The OCIF of the invention has a molecular weight by SDS-PAGE of  
 CC 60 kD under reducing conditions and 120 kD under non-reducing  
 CC conditions. The protein is adsorbed onto cation-exchangers or heparin  
 CC and its activity is lowered after 10 mins at 70 deg.C or 30 mins at 56  
 CC deg.C, and is lost after 10 mins at 90 deg.C. OCIF is useful in the  
 CC control of bone resorption and therefore in the treatment and  
 CC prevention of disorders of bone resorption, e.g. osteoporosis.  
 SQ Sequence 966 BP; 301 A; 228 C; 226 G; 211 T;  
  
 Query Match 62.3%; Score 951; DB 27; Length 966;  
 Best Local Similarity 99.9%; Pred. No. 0.00e+00;  
 Matches 952; Conservative 0; Mismatches 1; Indels 0; Gaps 0;  
  
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 Db 121 tgtgaacaatgtctcctcgtgtacctactaaacaacactgtacagcaagtgtgaagacc 180  
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 QY 166 TGTGAACAATGTCTCTCTGTACTCTAATAAACACACTGTACAGCAAGTGAAGACC 225  
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 Db 301 cacaacgcgtgtgtgcgaatgtcagaagaaagcgctactctgtagaataagttctgtgaa 360  
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 QY 346 CACAACCGCGTGTGCGAATGCAAGAGAGGCGCTACTGTAGATAGAGTTCTGTTGAAA 405  
 Db 361 catagaagctgcctcctcgtgattgtgagtggtgcaagctgtgaacccacagcgaataa 420  
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 QY 406 CATAGAGCTGCGCCCTCTGATTTGAGTGTGTCAGAGCTGGAACCCCAAGCCAAATATA 465  
 Db 421 gtttgcaaaagatgttcacagatgttctctcacaatgtagaagctcatctaaagacctt 480  
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 QY 466 GTTTGCAAAAGATGTCCAGATGGGTCTTCTCAATGAGACGTCATTAAGACCTGTG 525  
 Db 481 agaaaacacacaatgtcagtgcttctgtctcctgtactacacagaagaagaatgtcaaa 540  
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 QY 526 AGAAACACACAAATGTGCAAGTGTCTTGTGCTCTCTTAAGTCAAGAAAGAAATGCACAA 585  
 Db 541 caccgacaacatgttccggaacagtgaaatcaactcaaaaatgtggaatagatgttacc 600  
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 QY 586 CACGACAACATATGTCCGGAACAGTGAATCAATCAAAAATGTGAATAGATGTATACC 645  
 Db 601 ctgtgtgaagagacattcttcaaggttctgttcccaagaagttagcgtactatgctt 660  
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 QY 646 CTGTGTGAGGAGGCAATCTTCAAGTTGCTGTCTTCAAAAGTTTACGCTTACCTGCTT 705  
 Db 661 agtctctgttagacaatttgcctgcgacacaagaagtaaacgcaagagtgtagagagata 720  
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 QY 706 AGTGTCTGTGTACAAATTTGCTGCGACCAAAAGTAAAGCAGAGTGTAGAGAGATA 765  
 Db 721 aaacggcaacaacagctcacaagaacagacttccagctcgtgaagttatgtgaacaatca 780  
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 QY 766 AAACGGCAACACAGCTCAACAAGAACAGACTTCCACCTGCTGAAGTTATGGAACATCA 825  
 Db 781 aaaaagaagacaagatagtcagaagaatcatcatcaagaatatgtacctcgtgtgaacaac 840  
 |||||||  
 QY 826 AACGAAGACCAAGATATAGCAAGAAAGATCATCAAGATATGACCTGTGTGAACACAC 885  
 Db 841 gtcaacgagacattgtgaatgttcaacctcaacctgtgacagcttgcgtgtgagagata 900  
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 QY 886 GTGCACGCGCAATTTGACATGTACTACCTCAGCTTGTGACAGCTTGTGTGATGAGGA 945

Db 901 agcttaccggaggaagaagtggagcagaagacattgaaataaataaagc 953  
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 QY 946 AGCTTACCGGGAAGAAAGTGGAGCAGAGACATTGAAAAAACAATAAGGC 998

RESULT 12  
 ID T33167 standard; DNA; 1080 BP.

AC T33167:  
 DE 22-APR-1997 (first entry)  
 DE Mutated OCIF, OCIF-DCR2, coding sequence.  
 KW Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;  
 KW osteoporosis; ss.  
 OS Synthetic.

FN Key Location/Qualifiers  
 FT sig\_peptide 1..63  
 FT /tag= a  
 FT mat\_peptide 64..1077  
 FT /product= OCIF-DCR2  
 PD WO9626217-A1.  
 PD 29-AUG-1996.  
 PF 20-FEB-1996; J00374.  
 PR 20-FEB-1995; JP-054977.  
 PR 21-JUL-1995; JP-207508.  
 PA (SNOW) SNOW BRAND MILK PROD CO LTD.  
 PI Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;  
 PI Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;  
 DR WPI: 96-402320/40.  
 P-PSDB: R99337.

PT DNA encoding osteoclastogenesis inhibitory factor protein - useful  
 for bone resorption control, esp. treatment of osteoporosis.  
 PS Claim 45; Page 138-139; 183pp; Japanese.  
 CC This sequence encodes a mutated version of the full length  
 CC osteoclastogenesis inhibitory factor (OCIF) of the invention. This  
 CC sequence encodes OCIF-DCR2 in which amino acids 43-84 of the mature  
 CC protein have been deleted. The OCIF of the invention has a molecular  
 CC weight by SDS-PAGE of 60 kd under reducing conditions and 120 kd under  
 CC non-reducing conditions. The protein is adsorbed onto cation-exchangers  
 CC or heparin and its activity is lowered after 10 mins at 70 deg.C or 30  
 CC mins at 56 deg.C, and is lost after 10 mins at 90 deg.C. OCIF is useful  
 CC in the control of bone resorption and therefore in the treatment and  
 CC prevention of disorders of bone resorption, e.g. osteoporosis.  
 SQ Sequence 1080 BP; 357 A; 243 C; 236 G; 244 T;

Query Match 58.3%; Score 890; DB 27; Length 1080;  
 Best Local Similarity 99.9%; Pred. No. 0.00e+00;  
 Matches 891; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Db 189 cgaatgcagaagagcgctactccttgaatagaggtctcttgaatacagaagctgcc 248  
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 QY 360 CGAATGCAAGGAGGCGCTACTCTTGAATAGAGTCTCTTGAACATAGAGCGTCC 419  
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 Db 249 tccgtgatttgagtggtgcgaagctggaaccccgagagcgaatacagtttgcaaatg 308  
 |||||||  
 QY 420 TCGTGGATTGAGTGTGTGCAAGCTGGAACCCGAGCCAAAATACGTTTGCAGAAAGATG 479  
 |||||||  
 Db 309 tccagatgggtctcttcaaatagaagcgtcatcctaagaacccctgtgagaacacacaa 368  
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 QY 480 TCCAGATGGGTTCTTCTCAATATAGACGTCATTAAGACCCTGTAGAAACACACAAA 539  
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 Db 369 tgcgaatgcttctgtctcctcgtctaactcagaagaagaatgcaacacagacaataty 428  
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 QY 540 TTGCAATGCTTTGTGCTCTCTGCTACTCAGAAAGGAAATGCACACAGCAATATG 599  
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 Db 429 ttccggaacacagtgatcaactcaaaaatgtggaatagatgttaccctctgtgagagagc 488  
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 QY 600 TTCCGGAACAGTGAATCACTAAAAATGTGAAATAGATTTACCTGTGTAGAGAGGC 659  
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 Db 489 attcttcaggttctgtctcctcaaaagttaacgcttaactggtctagtgtctgttata 548  
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 QY 660 ATTCTTCAGGTTGCTGTCTCTCAAAAGTTTACGCTTAAGTGGCTTATAGTCTGTGATAG 719

Db 549 caattgctctggcaccaaagtataacgcagagagtgtagagagatataaagcgaacag 608  
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 QY 720 CAATTGCTCTGGCACCAGTAAGTAAACCAGAGAGTGTAGAGAGATTAACGGCAACACAG 779  
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 Db 609 ctccacaagacagactcttccagctgctgaagtatggaacatacaaaacaagaacacaag 668  
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 QY 780 CTCACAGAAAGACACTTTCACGCTGTGAAGTTATGGAANAATCAAAACAAAGAACCAAA 839  
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 Db 669 tatagtcaagaagatcatccaaagatatgacctctgtgaaacaagctgacgagacat 728  
 |||||||  
 QY 840 TATAGTCAAGAAAGATCATCAAGATATTGACCTGTGTGAAAACAGGTCTCACGCGACAT 899  
 |||||||  
 Db 729 tgagactgttaacctacaccttgagagcttgtagctgtgagaaagttccgggaaa 788  
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 QY 900 TGACATGCTTAACCTTACCTTGAGCAGGCTGTAGCTTGATGAAAGGCTTACCGGAAA 959  
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 Db 789 gaaagtggagcagaagaagaatgaaaaacaataaagcatgcaaacacagtgacagat 848  
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 QY 960 GAAAGTGGAGCAGAGAAAGATTTGAAAAAATTAAGCATCAAAACCAAGTGAACAGAT 1019  
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 Db 849 cctgaagctgtcagtttggcgataaaaaatggcgacccaagacaccttgaagggcct 908  
 |||||||  
 QY 1020 CCTGAAGCTGCTCAGTTTGTGGCAATATAAATGGCGACCAACACCTGAAGGGCCT 1079  
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 Db 909 aatgcagcactaaagacactcaaaagacgtaacactttcccaaacctgtaccagagct 968  
 |||||||  
 QY 1080 AATGCAGCAGCTTAAGCACTCAAGACGTACCACTTCCCAAAACGTCTCAGAGGTCT 1139  
 |||||||  
 Db 969 aaagaagacatcaaggttcccttcacagcttcccaaatgatacacaagtatt 1028  
 |||||||  
 QY 1140 AAGAAGACATCAGTCTCTTCTCACAGCTTCACATGTTCMAATGTATACAGAAATTAT 1199  
 |||||||  
 Db 1029 tttagaatgatatgtaaccaggtccaatcagtaaaataaagctgttataa 1080  
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 QY 1200 TTAGAAATGATAGTAAACAGGTCCAAATCAATTAATAAGCTGTATTA 1251  
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RESULT 13  
 ID T33171 standard; DNA; 984 BP.

AC T33171:  
 DE 22-APR-1997 (first entry)  
 DE Mutated OCIF, OCIF-DDD2, coding sequence.  
 KW Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;  
 KW osteoporosis; ss.  
 OS Synthetic.

FN Key Location/Qualifiers  
 FT sig\_peptide 1..63  
 FT /tag= a  
 FT mat\_peptide 64..981  
 FT /product= OCIF-DDD2  
 PD WO9626217-A1.  
 PD 29-AUG-1996.  
 PF 20-FEB-1996; J00374.  
 PR 20-FEB-1995; JP-054977.  
 PR 21-JUL-1995; JP-207508.  
 PA (SNOW) SNOW BRAND MILK PROD CO LTD.  
 PI Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;  
 PI Nakagawa N, Shima N, Tsuda E, Ueda M, Yano K, Yasuda H;  
 DR WPI: 96-402320/40.  
 P-PSDB: R99341.

PT DNA encoding osteoclastogenesis inhibitory factor protein - useful  
 for bone resorption control, esp. treatment of osteoporosis.  
 PS Claim 57; Page 142-143; 183pp; Japanese.  
 CC This sequence encodes a mutated version of the full length  
 CC osteoclastogenesis inhibitory factor (OCIF) of the invention. This  
 CC sequence encodes OCIF-DDD2 in which amino acids 253-326 of the mature  
 CC protein have been deleted. The OCIF of the invention has a molecular  
 CC weight by SDS-PAGE of 60 kd under reducing conditions and 120 kd under  
 CC non-reducing conditions. The protein is adsorbed onto cation-exchangers  
 CC or heparin and its activity is lowered after 10 mins at 70 deg.C or 30  
 CC mins at 56 deg.C, and is lost after 10 mins at 90 deg.C. OCIF is useful  
 CC in the control of bone resorption and therefore in the treatment and



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Db 601 ctgtgtgaggaagcattcttcaagttgtcttcccaagaattacgcttaacttgctt 660
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QY 646 CMTGTGAGAGGAGCATCTTTCAGTTCGTCTGCTTCAAAAGTTTACGCTTAAGTGGCTT 705
Db 661 agtgtcttgtagacaatttgcctgycaccacaagtaacgcagagatgtagaagata 720
    |||||
QY 706 AGTGTCTGTAGACAAATTTGCTGCGACCAAGTAACGACAGAGTGTAGAGAGGATA 765
Db 721 aaacggcaacacagctccacaagaagacttccagctgctgaagtatggaactca 780
    |||||
QY 766 AAACGGCAACACAGCTCCACAAGAACAGACTTTCACACTGCTGAAGTTATGGAACATCA 825
Db 781 aacaagaccagaatagatcaagaagatcatccaa 816
    |||||
QY 826 AACCAAGACCAAGATATAGTCAAGAAATCATCCAA 861

TULN 15
T33168 standard; DNA; 1080 BP.
T33168:
DE 22-APR-1997 (first entry)
KW Mutated OCIF, OCIF-DCR3, coding sequence.
KW Osteoclastogenesis inhibitory factor; OCIF; heparin; bone resorption;
KW osteoporosis; ss.
OS Synthetic.
FH Key Location/Qualifiers
FT sig_peptide 1..63
FT /*tag= a
FT mat_peptide 64..1077
FT /*tag= b
FT /product= OCIF-DCR3
FT W09626217-1.
PD 29-AUG-1996.
PD 20-FEB-1996: J00374.
PR 21-JUL-1995: JP-054977.
PR 21-JUL-1995: JP-207508.
PA (SNOW) SNOW BRAND MILK PROD CO LTD.
PI Goto M, Higashio K, Kobayashi F, Mochizuki S, Morinaga T;
PI Nakagawa N, Shima N, Tsuda E, Ueda W, Yano K, Yasuda H;
PI WPI: 96-402320/40.
DR P-PDB: R99938.
PT DNA encoding osteoclastogenesis inhibitory factor protein - useful
PT for bone resorption control. esp. treatment of osteoporosis
PS Claim 48; Page 139-140; 183pp; Japanese.
CC This sequence encodes a mutated version of the full length
CC osteoclastogenesis inhibitory factor (OCIF) of the invention. This
CC sequence encodes OCIF-DCR3 in which amino acids 85-122 of the mature
CC protein have been deleted. The OCIF of the invention has a molecular
CC weight by SDS-PAGE of 60 kD under reducing conditions and 120 kD under
CC non-reducing conditions. The protein is adsorbed onto cation-exchangers
CC or heparin and its activity is lowered after 10 mins at 70 deg.C or 30
CC mins at 56 deg.C, and is lost after 10 mins at 90 deg.C. OCIF is useful
CC in the control of bone resorption and therefore in the treatment and
CC prevention of disorders of bone resorption, e.g. osteoporosis.
SQ Sequence 1080 BP; 351 A; 259 C; 233 G; 237 T;

Query Match 50.1%; Score 765; DB 27; Length 1080;
Best Local Similarity 100.0%; Pred. No. 0.00e+00;
Matches 765; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 496 gaagcatctctcagggttgcgtcttccatacaaaagttaacgcttaactggttgcgtt 555
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QY 655 GAGGCAATTTTCAAGTTTGTGCTGTCTTCAAAAGTTTACGCTTAAGTGGCTTATGTTGTG 714
Db 556 gttagacaatttgccttgcaccacaagtaaaacgcagagagtgttagaagagataaaccgc 615
    |||||
QY 715 GTAGACAATTTGGCTTGCGACCAAAAGTAAGCGAGAGTGTAGAGAGATTAACGGCA 774
Db 616 cacagctcaacaagaacagacttccagctgcggaagtgttagaatacaataaaacaaagac 675
    |||||
QY 775 CACAGCTCAACAAAGACAGCTTTCAGCTGCTGTAAGTTATGGAACATCAAAACAAAGAC 834
Db 676 caagataatagtaagaagatcatccagaatattgaccttgygaaaacgcgctgcgag 735
    |||||
QY 835 CAAATATATGTCAAGAGATCATCCAGATATTGACCTCTGTGAACAGCGTGACGCG 894
Db 736 cacattggaatgtaacctcaaccttcgagcagcttcgtagcttgaatggaatgaatcag 795
    |||||
QY 895 CACATGGAATGCTAACCTCACTCACTCGAGCAGCTTCGTATGATGGAAGCTTACCG 954
Db 796 ggaagaagaagtggagcagaagaacattgaaaaaacaataaaggcatgcaaacccagtgac 855
    |||||
QY 955 GGAAGAAGAAGTGGAGCAAGAACATTTGAAAAACATATAAGGCATGCAAAACCCAGTGAC 1014
Db 856 cagatcctaagctgctcagtttggcggaataaaaaatggcgacaaagacaccttgaag 915
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QY 1015 CAGATCTTAAGCTGCTCAGTTTGTGCGAATTAATAAAGGCGACCAACACCTTGAAG 1074
Db 916 ggcctaatgcaagcaactaaagacactcaagaagcttaccacttcccaaaacttcaactag 975
    |||||
QY 1075 GGCCTAATGCAAGCACTAAAGCATCAAGACGTACCACTTCCAAAACGTGCACTCAG 1134
Db 976 agtctaaagaagaacatacaggttccttcaagcttcacaaatgtacaaatgtatcagaag 1035
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QY 1135 AGCTTAAGAAGACCATCAGTTCTTCAAGCTTCACAGCTTCACATGTATGAATGTATCAGAAG 1194
Db 1036 ttattttgaatgtaagtaaccaggtcccaatcagtaataata 1080
    |||||
QY 1195 TTTATTTTGAATGATAGTAACCAAGTCAATCATGTAATAATA 1239

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Job time : 360 secs.

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